Title: METHANOL REFORMING CATALYST

Inventor(s): Hiroaki KANEKO et al. Appl. No.: 09/735,913

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FIG.1A

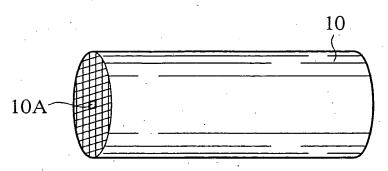


FIG.1B

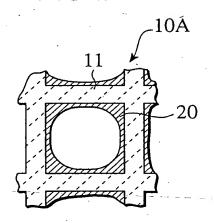
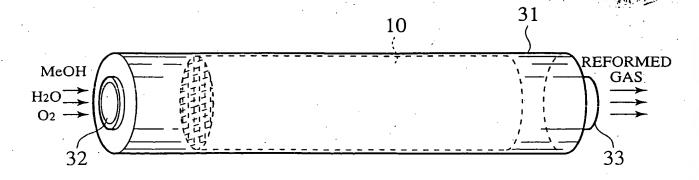


FIG.2



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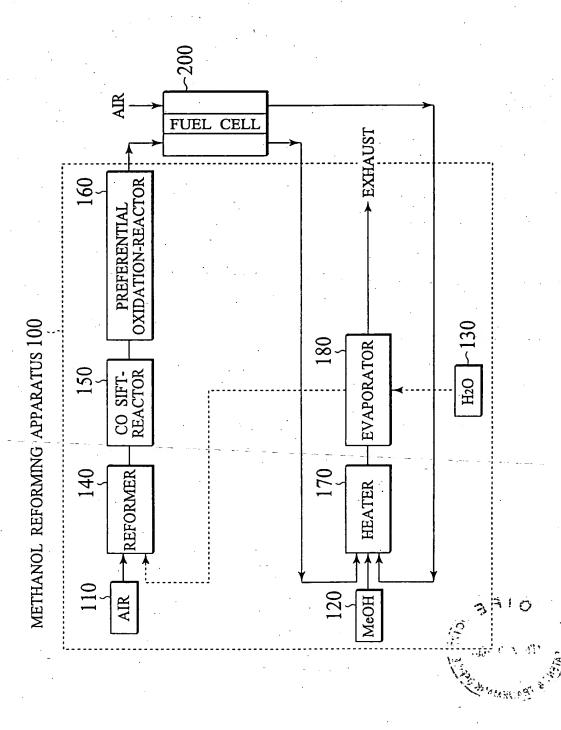


FIG.3

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|                          |                    |  |                   |                        | ,.                   |                  |                  |     |
|--------------------------|--------------------|--|-------------------|------------------------|----------------------|------------------|------------------|-----|
| Example                  | Catalyst<br>No     | Composition of catalyst supported material/(support) | Pd:Zu (mol ratio) | Burning<br>temperature | Reducing temperature | Reformation rate | CO Concentration |     |
| example 1 catalyst 1     | catalyst 1         | 5%Pd-3.06%Zn/(68%CeO2-32%ZrO2)                       | 1:1               | 500                    | 500                  | 86               | 2.5              |     |
| example 2 catalyst 2     | catalyst 2         | 5%Pd-6.12%Zn/(68%CeO2-32%ZrO2)                       | 1:2               | 200                    | 200                  | 8.66             | 2.1              |     |
| example 3 catalyst 3     | catalyst 3         | 5%Pd-30.6%Zn/(68%CeO2-32%ZrO2)                       | 1:10              | 200                    | 200                  | . 99,3           | 1.1              |     |
| example 4                | catalyst 4         | 5%Pd-6.12%Zn/CeO2                                    | 1:2               | 200                    | 200                  | 8.86             | 2.2              | 3/3 |
| example 5                | catalyst 5         | catalyst 5 5%Pd-6.12%Zn/ZrO2                         | 1:2               | 200                    | 200                  | 7.66             | 2.3              | 3   |
| example 6                | catalyst 6         | 5%Pd-6.12%Zn/(20%CeO2-80%ZrO2)                       | 1:2               | 200                    | 200                  | 99.5             | 2.2              |     |
| example 7                | catalyst 7         | 5%Pd-6.12%Zn/(68%CeO2-32%ZrO2)                       | 1:2               | . 400                  | 400                  | 98.3             | 2.3              |     |
| example 8                | catalyst 8         | 5%Pd-6.12%Zn/(68%CeO2-32%ZrO2)                       | 1:2               | 009                    | 009                  | 98.5             | 2.1              |     |
|                          |                    |  |                   |                        |                      |                  |                  |     |
| comparative example 1    | catalyst 9         | catalyst 9 5%Pd/(68%CeO2-32%ZrO2)                    |                   | 200                    | 200                  | 92               | 10.5             |     |
| comparative example 2    | catalyst 10 Cu-ZnO | Cu-ZnO   |                   | 400                    | 400                  | 85               | 1.1              |     |
| comparative<br>example 3 | çatalyst 11        | catalyst 11 5%Pd/ZnO                                 | 1:20              | 200                    | 200                  | 68               | 2.4              | •   |
| S. A.                    | 7                  |  |                   |                        |                      |                  |                  |     |